

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the replies filed on June 13, 2011 and on October 3, 2011.
2. Claims 1 through 21 remain in the application, all of which have been amended either directly or indirectly during the prosecution of the application.
3. Upon reconsideration in view of the entire file wrapper history of the application and the prior art of record, the indicated allowability of claims 1 through 21 is hereby withdrawn and various rejections based on the cited references follow. The finality of the last Office action is hereby withdrawn as well.

Response to Arguments

4. Upon reconsideration, applicant's arguments filed on March 23, 2011 have been considered but are moot in view of the new grounds of rejection presented herein. It is noted, however, that further consideration of applicant's arguments relating to the previously applied prior art (i.e., Behr GmbH & Co.) which admittedly shows a pivotable flap 27 or 63 purportedly fails to show a rotary valve as currently (but not originally) recited in claim 1 and all claims depending therefrom, even though no rotary valve per se is mentioned nor described in the originally filed disclosure and even though the only disclosed embodiment of a shut-off member which could be deemed readable on the rotary valve as now recited in the claims is be a pivotable flap just like the one disclosed by Behr GmbH & Co. Thus, prosecution is being reopened in order to clarify for the record the applicant's intent in claiming a "rotary valve" in lieu of (or in addition to) a shut-off member and/or a pivotable flap.

Drawings

5. The replacement drawings were received on October 3, 2011. These drawings are hereby objected to for the reasons set forth in greater detail hereinbelow.
6. The drawings filed on October 3, 2011 (as well as the originally filed drawings) are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims.

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Therefore, the following features must be shown or the features canceled from the claims: a rotatable valve rotatable from a first position blocking airflow through a first portion of an air box to a second position allowing air flow through the first portion and a second portion of the air box as recited in claims 1 through 8, 10, and 12 through 19; a rotary valve in combination with a separate shut-off member as recited in claims 2 through 8, 10, and 12 through 16; the pivotable flap being of a rectangular or generally or approximately rectangular design as recited in claims 6 through 9; the flap having at least one cutout for one or more nonclosable tubes as recited in claim 9; the shut-off member being designed as a round flap with a central pivotal axis as recited in claim 13; the shut-off member being designed as a round, partially cut-out flap with a lateral pivot axis or a central pivot axis as recited in claim 14; the shut-off member being designed as a half-round flap with a lateral or a central pivot axis as recited in claim 15; the shut-off member having covering sections for individual tubes, which covering sections are mounted such that they can be displaced and/or rotated together as recited in claim 16; and, the shut-off member being designed as a round pivoting flap with a central pivot axis as recited in claim 21. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: there is no antecedent basis for the limitation “a rotary valve” as added to base claim 1 via the amendment filed on August 2, 2010.

Claim Objections

8. Claims 13 and 14 are objected to because of the following informalities: “characterized in wherein” in line 2 of each of the claims should be replaced with “wherein” for improved grammatical correctness and readability. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Upon reconsideration, claims 1 through 8, 10, and 12 through 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

First of all, the limitation “*including a rotary valve* rotatable from a first position blocking airflow through said first portion to a second position allowing air flow through said first portion and said second portion” was added to base claim 1 via the amendment filed on August 2, 2010; however, a thorough search of the originally filed disclosure--including the originally filed specification, abstract, and

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claims--failed to find any mention or other support for a rotary valve per se, unless the limitation "a rotary valve" is intended to refer to a pivoting flap only. Therefore, especially in view of applicant's arguments that the "drawings of DE 10203003 do not show a rotary valve" [see page 5 of applicant's remarks filed on March 23, 2011] but rather only a show "a pivoting flap" [i.e., thus implying that "a rotary valve" is other than "a pivoting flap"], the new limitations reciting "a rotary valve" as added via the amendment filed on August 2, 2010 constitute new matter without support in the originally filed disclosure.

Second of all, claims 2 through 8 and 10 through 16 appear to recite both a rotary valve (as recited in base claim 1 following the amendment filed on August 2, 2010) in combination with a separate "shut-off member" (as recited in claim 2 and all claims depending therefrom), but there appears to be no support whatsoever for a rotary valve in the originally filed disclosure as discussed in greater detail above, and much less for a combination of a rotary valve with a second and separate "shut-off member" as now recited in the claims. Thus, the combination of a rotary valve with a shut-off member also constitutes new matter without support in the originally filed disclosure.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Upon reconsideration, claims 1 through 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The intended metes and bounds of protection sought by the limitation "a rotary valve" [claim 1, line 5] are not clearly set forth, particular since there is no mention of any "rotary valve" per se in the originally filed disclosure as noted in greater detail above, with only a pivoting flap being disclosed and described in the originally filed disclosure. Thus, in retrospect, given the absence of any mention or other support for a rotary valve per se in the originally filed disclosure, and particularly in view of applicant's arguments that the "drawings of DE 10203003 do not show a rotary valve" [see page 5 of applicant's

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remarks filed on March 23, 2011] but rather only show "a pivoting flap" [i.e., thus implying that "a rotary valve" is other than "a pivoting flap"], it is not clear at all which types of valves or valve structures are encompassed by the limitation "a rotary valve" as added via the amendment filed on August 2, 2010 constitute new matter without support in the originally filed disclosure, especially since the applicant does not appear to want to have the limitation "a rotary valve" read on the one disclosed embodiment which IS disclosed and described in the specification and which can be reasonably readable on "a rotary valve".

Upon reconsideration, it is also not clear whether the limitation "a rotary valve rotatable" as recited in base claim 1 is intended to mean that the entire rotary valve is rotatable between the two positions as recited in the claim or to mean that a portion of the rotary valve (i.e., a flap of the rotary valve) is rotatable between the two positions, thus further rendering indefinite the metes and bounds of protection sought by the claims.

With regard to claim 2 (as well as all claims depending therefrom and each of independent claims 9 and 11, it is not clear whether the optional limitation "can be closed by a shut-off member" is or is not intended to positively recite the shut-off member despite it being an optional intended use limitation, and especially since later limitations in the claims appear to refer to "the shut-off member" as if it IS being positively recited by the claim. In fact the claims appear to be self-contradictory and thus not clear with regard to this matter, because the claims first appear to only refer to the shut-off member as part of an optional intended use clause, but later refer to the shut-off member as if it has been previously positively recited in the claims even though it has not been so recited.

Also with regard to claim 2 and all claims depending therefrom, it is not clear if the shut-off member as recited in the claims is intended to be in addition to the rotary valve which is previously recited in base claim 1 from which claim 2 depends OR whether it is merely appearing in the claims as the result of a typographical error and the failure of applicants to replace "a shut-off member" with "a rotary valve" or similar after reciting "a rotary valve" in base claim 1.

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The term "laterally" in claim 6 is a relative term which renders the claim indefinite. The term "laterally" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to qualify the relative position of the flap, the term renders the same indeterminate and the claim indefinite because it fails to clearly relate the position of the pivot axis of the flap relative to another fixed element. Claims 14 and 15 each recite the similarly relative term "lateral" and are similarly rendered indefinite thereby.

With regard to claim 7 as written, it is not clear whether the limitation "the tubes" in line 2 of the claim is intended to refer back to the subset of tubes as recited in the limitation "some of the tubes" in line 2 of claim 2 or whether the limitation "the tubes" in line 2 of claim 7 is instead intended to refer back to the tubes in general as recited in line 2 of base claim 1 from which both claim 7 and claim 2 depend.

There is insufficient antecedent basis in the claims for the limitations "a tube plate of the air box" [claim 7, lines 2-3]—recommend positively reciting a tube plate beforehand; "the air box" [claim 7, line 3; claim 10, line 2, both occurrences; claim 11, line 6, both occurrences] ; "the region of the tube plate" [claim 7, line 4; claim 9, line 11]; "the closure position" [claim 8, lines 2-3; claim 9, lines 12-13]; and, "a tube plate of one of the air boxes" [claim 9, line 9].

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of

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Ex parte Steigewald, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 9 recites the broad recitation “a shut off member”, and the claim also recites “the shut-off member is designed as a pivotable flap with a latterly arranged pivot axis” which is the narrower statement of the range/limitation. Similarly, in the present instance, claim 11 recites the broad recitation “a shut off member”, and the claim also recites “the shut-off member is designed as a rotary slide” which is the narrower statement of the range/limitation.

The term “approximately” in claim 9 is a relative term which renders the claim indefinite. The term “approximately” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to qualify the shape of the flap, the term renders the same indeterminate and the claim indefinite.

Upon reconsideration, it appears that the partition and chambers as recited in claim 10 are now duplicative of the partition wall and the first and second portions of the one of the air boxes as recited in base claim 1 and thus constitute an improper double recitation of the same elements.

With regard to the limitation “two chambers with two flow cross sections” [claim 10, lines 2-3; claim 11, lines 6-7], it is not clear whether the limitation is intended to mean that each chamber has a distinct flow cross section OR to mean that there are two flow cross sections in the two chambers, but not necessarily one flow cross section per chamber.

With regard to claim 16 as written, the limitations “the shut-off member has covering sections for individual tubes, which covering sections are mounted such that they can be displaced and/or rotated together” are not clear as written, in that it is not clear to which previously recited elements the pronoun “they” refers (recommend replacing with a direct recitation of the elements referred to thereby) and because it is also not clear which structures are encompassed thereby.

Claim Rejections - 35 USC § 102

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13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. As best can be understood in view of the indefiniteness of the claims, claims 1 through 8, 10, and 12 through 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Delphi Technologies, Inc. (EP 1 336 736 A2; previously made of record via IDS).

Delphi Technologies, Inc., discloses a charge air intercooler 10 essentially as claimed, including, for example: a heat exchanger unit or part 16 as shown in Figure 1 with tubes through which air can flow (tubes not shown; see paragraph [0026] spanning columns 5 and 6 of the specification); air boxes 12 or 112 or 212 or 312 and 14 having a charge air inlet 18 and a charge air outlet 20 which are connected to the tubes; a partition wall 146 or 246 dividing air box 112 or 212 into first and second portions and including a circular or round rotary/rotatable valve or flap 148 or 248 in turn comprised of two semi-circular flaps or two half round flaps and having a pivot axis which is central relative to the entire valve or flap but which is lateral relative to the air box 112 or 212; a round or circular rotatable flap or shut off member 158 or 258 in turn comprised of two semi-circular or two half round flaps, the shut off member 158 or 258 having a pivot axis which is central relative to the entire flap or shut-off member but which is lateral relative to the air box 112 or 212; and, a second partition 140 or 240 dividing an air box into two chambers having one flow cross section in the partition 140 or 240 and another within the interior of the chambers. The shaft of the flap or shut off member 158 or 258, for example, is inserted through a cut-out in the flap 158 or 258 (as shown in Figures 2 through 5), as broadly interpreted as required.

The reference thus reads on the claims.

Claim Rejections - 35 USC § 103

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15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. As best can be understood in view of the indefiniteness of the claims, claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Delphi Technologies, Inc. (EP 1 336 736 A2; previously made of record via IDS) in view of Behr GmbH & Co. (DE 102 03 003 A1, previously made of record via IDS).

Delphi Technologies, Inc., as discussed in greater detail above, discloses a charge air intercooler 10 essentially as claimed, except for only disclosing a round or circular rotary valve or shut-off member or pivotal flap 148 or 248 or 158 or 258. Delphi Technologies, Inc., however does not disclose the rotary valve or shut-off member or pivotal flap as being generally rectangular in shape and as resting on the tube ends in the closed position. However, it is known in the art and disclosed by Behr GmbH & Co. to use a generally rectangular flap 63 to control air flow in a charge air intercooler and also to rest the flap on the tubes 22 when in the closed position as shown in Figure 5 of Behr GmbH & Co. for example. Thus, it would have been obvious to one skilled in the art at the time of invention to modify the charge air intercooler 10 of Delphi Technologies, Inc., by changing the shape of one or more of the pivotal flaps 148 or 248 or 158 or 258 from generally circular/semi-circular to generally rectangular in order to fit the

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particular shape of the air flow opening through which flow is to be controlled thereby, and by changing the position of the flap in a closed position so that it rests on the tubes in order to simplify the design of the intercooler by reducing the number of parts therein.

Allowable Subject Matter

18. Upon reconsideration, claims 9 and 11 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

19. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible schedule, but can normally be reached weekdays between 10:30 a.m. and 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ljiljana (Lil) V. Ciric/

Primary Examiner, Art Unit 3785